

Application No.10/626,307
Amendment dated 21 November 2005
Reply to Office action of September 6, 2005

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 (currently amended): A filter material having a composition comprising:

a fused mixture of ~~particulate~~ of predetermined sizes of powder particulate of ultra high molecular weight polyethylene in 1 portion of proportion by volume and small portion in proportion by volume of, low density polyethylene, and high density polyethylene, said material having evenly distributed interstices openings of substantially equal size and extending from one surface to an opposite surface.

Claims 2 to 3 (canceled).

Claim 4 (currently amended): A filter material composition according to Claim 1 ~~having 1~~ portion of in proportion by volume of wherein said ultra high molecular weight polyethylene powder ~~having~~ has a particulate size of approximately 10 micrometer, ~~0.1 to 0.2 portion in proportion by volume of polytetrafluoroethylene powder having a particulate size of approximately 15 micrometer,~~ said high density polyethylene being 0.05 to 0.1 portion in proportion by volume of high density polyethylene powder having a particulate size of approximately 15 micrometer, said low density polyethylene being 0.03 to 0.08 portion in proportion by volume of low density polyethylene powder having a particulate size of approximately 15 micrometer,

Application No.10/626,307
Amendment dated 21 November 2005
Reply to Office Action of September 6, 2005

and further including 0.05 to 0.1 portion in proportion by volume of alkaline powder having a particulate size of approximately 10 micrometer,

0.1 to 0.2 portion in proportion in volume of polytetrafluoroethylene powder having a particulate size of approximately 15 micrometer.

and 0.1 to 0.2 portion in proportion by volume of polyphenylene oxide powder having a particulate size of approximately 15 micrometer.

Claim 5 (currently amended): A filter material composition according to Claim ~~2~~ 1 ~~having a portion in proportion by volume of~~ wherein said ultra high molecular weight polyethylene powder ~~having~~ has a particulate size of approximately 20 to 30 micrometer,

said high density polyethylene powder being 0.10 to 0.20 portion in proportion by volume of high density polyethylene powder having a particulate size of approximately 25 micrometer, said low density polyethylene powder being 0.03 to 0.08 portion in proportion by volume of low density polyethylene powder having a particulate size of approximately 25 micrometer,

and further including 0.05 to 0.15 portion in proportion by volume of polytetrafluoroethylene powder having a particulate size of approximately 25 micrometer,

0.05 to 0.15 portion in proportion by volume of polyamide powder having a particulate size of approximately 25 micrometer,

0.15 to 0.3 portion in proportion by volume of alkaline powder having a particulate size of approximately 20 micrometer, and

0.10 to 0.25 portion in proportion by volume of salt powder having a particulate size of

Application No.10/626,307
Amendment dated 21 November 2005
Reply to Office action of September 6, 2005

approximately 25 micrometer.

Claim 6(currently amended): A filter material composition according to Claim ~~2~~ 1 ~~having a~~
~~portion in proportion by volume of wherein said~~ ultra high molecular weight polyethylene
powder ~~having~~ has a particulate size of approximately 40 micrometer,
said high density polyethylene powder being 0.10 to 0.2 portion in proportion by volume of high
density polyethylene powder having a particulate size of approximately 40 micrometer,
said low density polyethylene powder being 0.03 to 0.08 portion in proportion by volume of low
density polyethylene having a particulate size of approximately 40 micrometer,
and further including 0.05 to 0.15 portion in proportion by volume of polypropylene powder
having a particulate size of approximately 40 micrometer,
0.05 to 0.15 portion in proportion by volume of polyamide powder having a particulate size of
approximately 40 micrometer,
0.15 to 0.3 portion in proportion by volume of alkaline powder having a particulate size of
approximately 20 micrometer, and
0.10 to 0.25 portion in proportion by volume of salt powder having a particulate size of
approximately 40 micrometer.

Claim 7 (canceled).

Claim 8 (canceled).

Claim 9 (currently amended): A process ~~according to Claim 8 including the steps of making a~~
high efficiency filter material comprising the steps of:

Application No.10/626,307
Amendment dated 21 November 2005
Reply to Office action of September 6, 2005

mixing a powder mixture of ultra high molecular weight polyethylene, high density polyethylene, low density polyethylene all having predetermined particulate sizes.

placing and compacting said powder mixture in a refractory mold having a predetermine molded shape,

heating said mold in a heating oven to a temperature of up to 320 °C for 30 to 90 minutes to fuse the mixture to an elastic porous material /,

removing said mold with said elastic material therein from said heating oven,

immersing said mold with said elastic material therein into a cold water bath, and

removing said elastic material from said mold.

Claim 10 (original) A process according to Claim 9 including a further step of immersing the elastic material after having removed from said mold in water for a further period of 2 to 4 hours.